

## CLAIMS

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is as follows:

- 1        1. A connector assembly comprising:
  - 2                an upper clamping plate movable between a first locked position and a second unlocked position;
  - 4                a cam plug;
  - 5                a lower clamping plate positioned between the upper clamping plate and the cam plug;
  - 7                a clamping rod attached to the upper clamping plate and extending through a bore of the lower clamping plate and the cam plug; and
  - 9                a cam lever having a cam surface, the cam lever being pivotally attached to the clamping rod at an end remote from the upper clamping plate, the cam lever being pivotable between a first position and a second position,
    - 12                wherein when the cam lever is pivoted to the first position the cam surface contacts the cam plug and the cam lever moves the clamping rod which positions the upper clamping plate into the first locked position proximate, and releases the upper clamping plate to the second unlocked position remote from the lower clamping plate when pivoted to the second position.
- 1        2. The connector assembly of claim 1, wherein the cam surface contacts the cam plug when the cam lever is in the second position in order to maintain a predetermined height of the upper clamping plate with respect to the lower clamping plate when the upper clamping plate is in the second unlocked position.

1       3. The connector assembly of claim 1, further comprising a collar extending  
2       upward from the lower clamping plate proximate to the upper clamping plate,  
3       the collar restricting a rotation of the upper clamping plate.

4       4. The connector assembly of claim 1, further comprising:  
5              a key plate;  
6              a shoulder on the clamping rod;  
7              a washer abutting the shoulder of the clamping rod; and  
8              a spring positioned between the key plate and the washer, the spring  
9       biasing the upper clamping plate to the second unlocked position when the cam  
10      lever is in the second position.

11      5. The connector assembly of claim 1, further comprising:  
12              a key plate;  
13              a shoulder on the clamping rod;  
14              a washer abutting the shoulder of the clamping rod; and  
15              a spring positioned between the key plate and the washer, the spring  
16       biasing the upper clamping plate to the second unlocked position when the cam  
17      lever is in the second position,  
18              wherein the cam surface contacts the cam plug when the cam lever is in  
19      the second position in order to maintain a predetermined height of the upper  
20      clamping plate with respect to the lower clamping plate when the upper  
21      clamping plate is in the second unlocked position.

1       6. The connector assembly of claim 1, further comprising:  
2              a groove or one or more indentations on an underside surface of the  
3       upper clamping plate facing the lower clamping plate; and  
4              at least one locking pin extending upwards from the lower clamping

5 plate corresponding in arrangement to the groove or the one or more  
6 indentations,

7 wherein the at least one locking pin engages the groove or the one or  
8 more indentations when the upper clamping plate is in the first locked position.

1 7. The connector assembly of claim 1, further comprising:

2 a pivot assembly including:

3 a centrally located shaft;

4 a bore disposed through a longitudinal axis of the centrally  
5 located shaft;

6 the lower clamping plate positioned on the centrally located  
7 shaft, the bore of the lower clamping plate aligning with the bore of the  
8 centrally located shaft; and

9 a plurality of teeth positioned at an approximate mid section of  
10 the centrally located shaft,

11 wherein the clamping rod is slidably positioned within the bore of the  
12 centrally located shaft.

1 8. The connector assembly of claim 7, wherein:

2 the bore of the centrally located shaft includes a shoulder; and

3 the clamping rod includes a shoulder, the shoulder of the clamping rod  
4 abuts the shoulder of the bore of the centrally located shaft when the upper  
5 clamping plate is in the second unlocked position in order to maintain a  
6 predetermined height of the upper clamping plate with respect to the lower  
7 clamping plate.

1 9. The connector assembly of claim 1, further comprising a spring between the  
2 upper clamping plate and the cam plug for urging the upper clamping plate into

3       the second unlocked position when the cam lever is in the second position.

1       10. The connector assembly of claim 1, further comprising  
2            a key plate;  
3            a first shoulder and a second shoulder on the clamping rod; and  
4            a spring positioned between the key plate and the first shoulder, the  
5            spring biasing the upper clamping plate to the second unlocked position when  
6            the cam lever is in the second position.

1       11. The connector assembly of claim 10, further comprising a second spring  
2            positioned between the key plate and the cam plug, the second spring biasing  
3            the cam plug towards the cam surface when the cam lever is in the second  
4            position, the second spring being compressed when the cam lever is in the first  
5            position.

1       12. The connector assembly of claim 1, further comprising:  
2            an oscillating saw yoke having a bore with extending teeth;  
3            a pivot assembly, the pivot assembly including:  
4              a centrally located shaft;  
5              a bore disposed through a longitudinal axis of the centrally  
6              located shaft;  
7              the lower clamping plate positioned on the centrally located  
8              shaft, the bore of the lower clamping plate aligning with the bore of the  
9              centrally located shaft; and  
10             a plurality of teeth positioned at an approximate mid section of  
11             the centrally located shaft,  
12             wherein the oscillating saw yoke extending teeth mesh with the teeth of  
13             the pivot assembly.

1       13. The connector assembly of claim 1, further comprising a retention ring for  
2       holding the lower clamping plate stationary.

1       14. A surgical instrument, comprising:  
2              a housing;  
3              a motor positioned within the housing;  
4              a connector assembly for clamping a surgical tool to the housing, the  
5       connector assembly including:  
6                  an upper clamping plate movable between a first locked position  
7       and a second unlocked position;  
8                  a cam plug;  
9                  a pivot assembly, the pivot assembly including:  
10                      a centrally located shaft;  
11                      a bore disposed through a longitudinal axis of the  
12       centrally located shaft;  
13                      a lower clamping plate having a bore and being  
14       positioned on the centrally located shaft, the bore of the lower clamping plate  
15       aligning with the bore of the centrally located shaft; and  
16                      a plurality of teeth positioned at an approximate mid  
17       section of the centrally located shaft;  
18                      a clamping rod attached to the upper clamping plate and  
19       extending through the bore of the lower clamping plate and the cam plug;  
20                      a cam lever having a cam surface, the cam lever being pivotally  
21       attached to the clamping rod at an end remote from the upper clamping plate,  
22       the cam lever being pivotable between a first position and a second position;  
23       and  
24                      an oscillating saw yoke having a bore with extending teeth, the

25        oscillating saw yoke extending teeth meshing with the teeth of the pivot  
26        assembly.

1        15. The surgical instrument of claim 14, wherein when the cam lever is  
2        pivoted to the first position the cam surface contacts the cam plug and the cam  
3        lever moves the clamping rod which positions the upper clamping plate into the  
4        first locked position proximate, and releases the upper clamping plate to the  
5        second unlocked position remote from the lower clamping plate when pivoted  
6        to the second position.

1        16. The surgical instrument of claim 14, wherein the oscillating saw yoke  
2        connects to the motor in order to oscillate the pivot assembly.

1        17. The surgical instrument of claim 14, wherein the cam surface contacts the  
2        cam plug when the cam lever is in the second position in order to maintain a  
3        predetermined height of the upper clamping plate when in the second unlocked  
4        position.

1        18. The surgical instrument of claim 17, further comprising:  
2              a key plate;  
3              a shoulder on the clamping rod;  
4              a washer abutting the shoulder of the clamping rod; and  
5              a spring positioned between the key plate and the washer, the spring  
6        biasing the upper clamping plate to the second unlocked position when the cam  
7        lever is in the second position.

1        19. The connector of claim 14, further comprising:  
2              a collar extending upward from the lower clamping plate proximate to

3       the upper clamping plate, the collar restricting a rotation of the upper clamping  
4       plate;

5               a groove or one or more indentations on an underside surface of the  
6       upper clamping plate facing the lower clamping plate; and

7               at least one locking pin extending upwards from the lower clamping  
8       plate corresponding in arrangement to the groove or the one or more  
9       indentations, the at least one locking pin engaging the groove or the one or  
10      more indentations when the upper clamping plate is in the first locked position.

1       20. The connector assembly of claim 19, wherein:

2               the bore of the centrally located shaft includes a shoulder; and

3               the clamping rod includes a shoulder, the shoulder of the clamping rod  
4       abuts the shoulder of the bore of the centrally located shaft when the upper  
5       clamping plate is in the first opened position in order to maintain a  
6       predetermined height of the upper clamping plate with respect to the lower  
7       clamping plate.

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